



*Supplement of*

## **Contrasted Saharan dust events in LNLC environments: impact on nutrient dynamics and primary production**

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## Supplementary material

Figure S1:  $\text{NO}_3^-$  concentration ( $\mu\text{M}$ ) during the DUNE-2-R experiment in the Dust-meso at 5 and 10 m depth. The dotted lines represent the time of the dust seedings. Data in the Dust-meso represent the average and standard deviation of the three replicate mesocosms.  $\text{NO}_3^-$  concentrations were under detection limit ( $< 30 \text{ nM}$ ) in the Control-meso and outside over the duration of the experiment as well as in the Dust-meso before seeding (day 0) and at the end of the experiment (day 13).

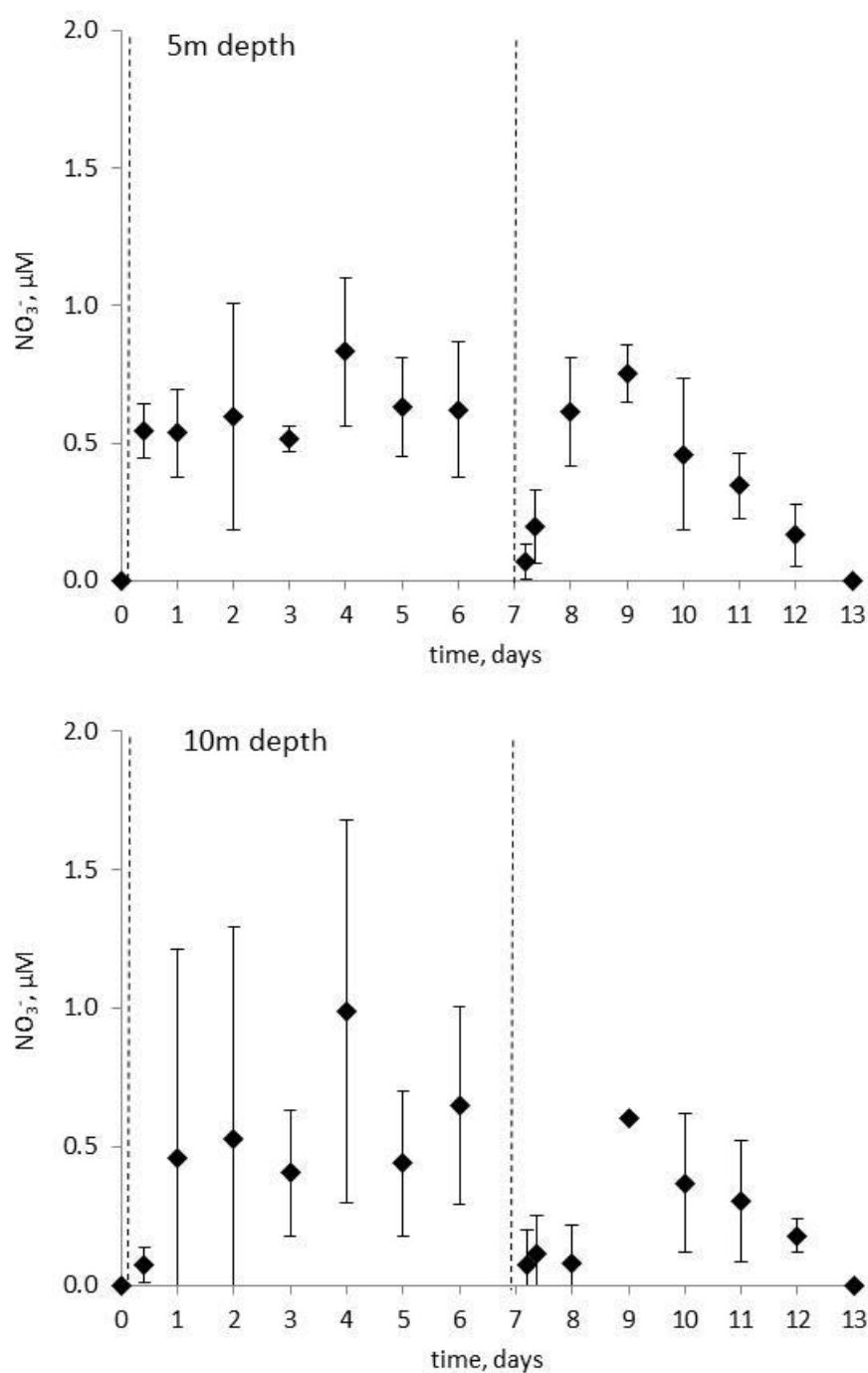


Figure S2: C:N ratio (mol:mol) in the particulate matter in the Control-meso (black dot), Dust-meso (orange dot) and out (grey dot) during DUNE-1-P (A), DUNE-1-Q (B) and DUNE-2-R (C). Data represent the means at 0.1 and 5 m depth for the DUNE-1-P and -Q experiments and at 5 m depth for the DUNE-2-R experiment. The dotted lines represent the time of the dust seeding.

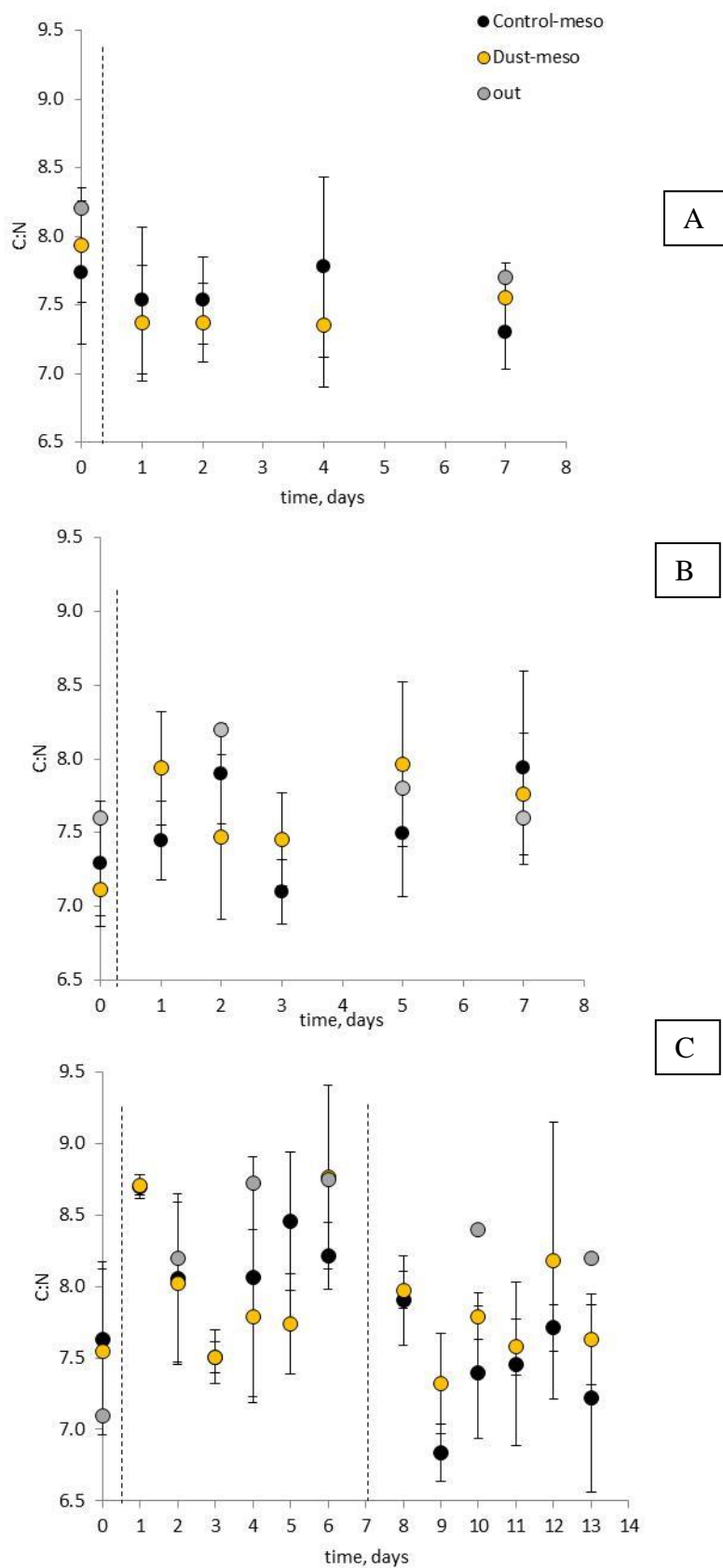


Figure S3: Chlorophyll *a* (Chl *a*) concentration in  $\mu\text{g L}^{-1}$  during the DUNE-1-P experiment in the Control-meso (black dot), Dust-meso (orange dot) and out (grey dot) at surface, 5 m and 10 m depth. The dotted line represents the time of the dust seeding. Data in the Control- and Dust-meso represent the average and standard deviation of the three replicate mesocosms. Means in the Dust-meso that were significantly different from the Control-meso ( $p < 0.05$ ) are labeled with the \* symbol.

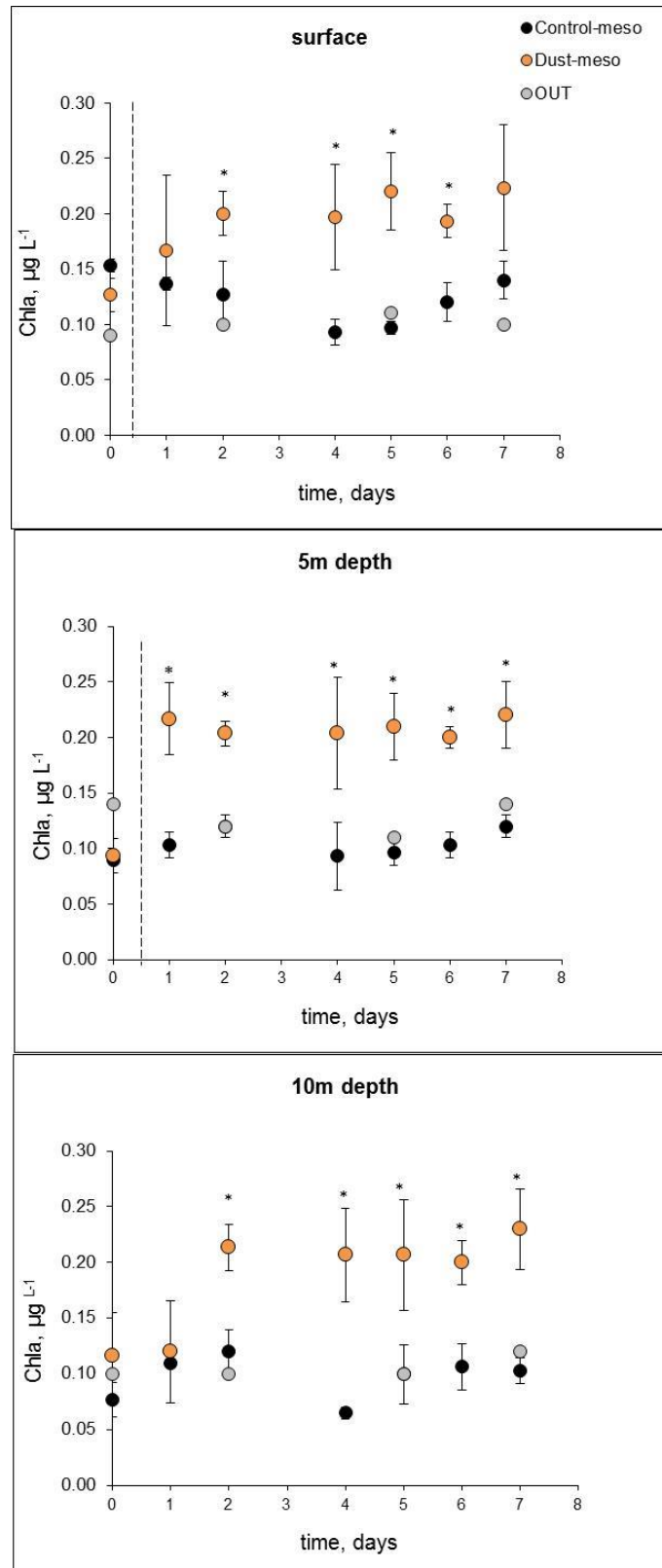


Figure S4 – Primary production (PP) in  $\text{mg C m}^{-3} \text{ d}^{-1}$  during the DUNE-1-P experiment in the Control-meso (black dot), Dust-meso (orange dot) and out (grey dot) at surface and 5 m-depth. The dotted line represents the time of the dust seeding. Data in the Control- and Dust-meso represent the average and standard deviation of the three replicate mesocosms. Means in Dust-meso that were significantly different from Control-meso ( $p < 0.05$ ) are labeled with the \* symbol.

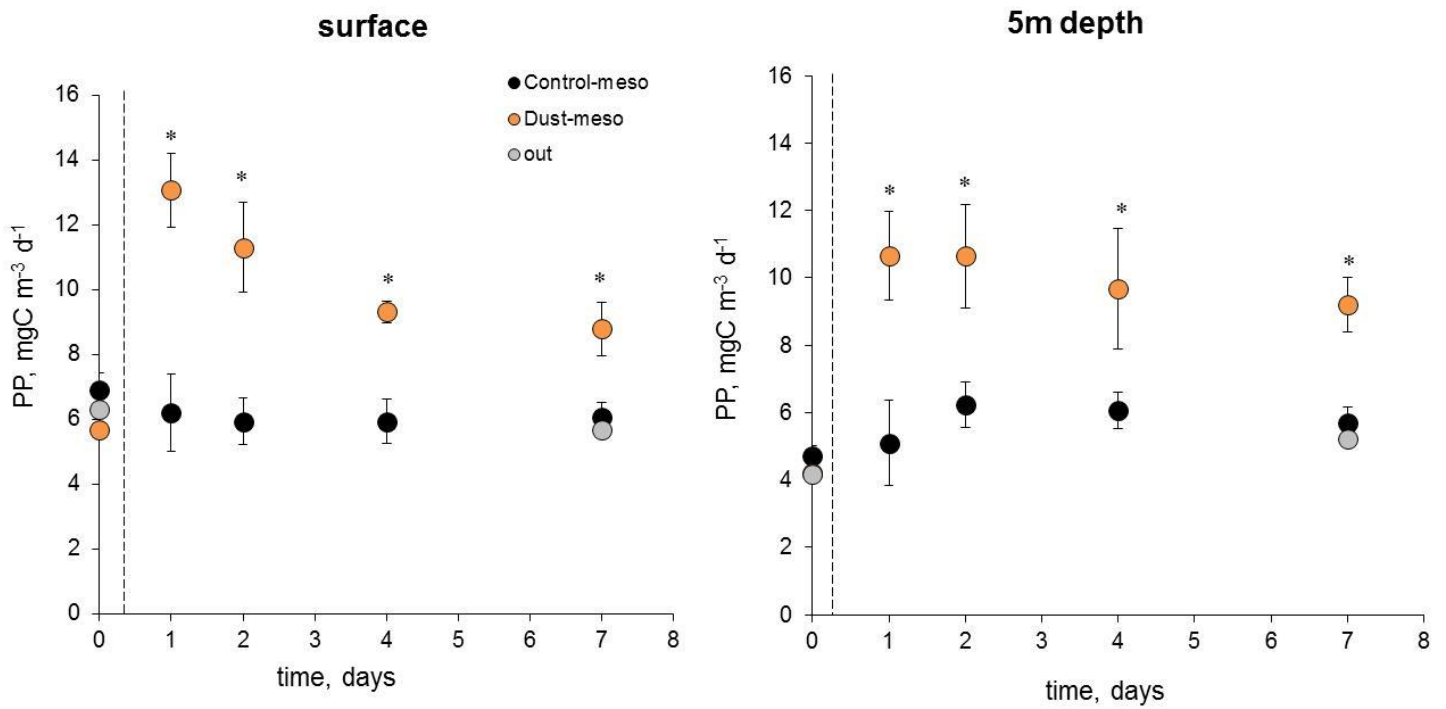


Figure S5: Chlorophyll *a* (Chl *a*) concentration in  $\mu\text{g L}^{-1}$  during the DUNE-1-Q experiment in the Control-meso (black dot), Dust-meso (orange dot) and out (grey dot) at surface, 5 and 10 m depth. The dotted line represents the time of the dust seeding. Data in the Control- and Dust-meso represent the average and standard deviation of the three replicate mesocosms.

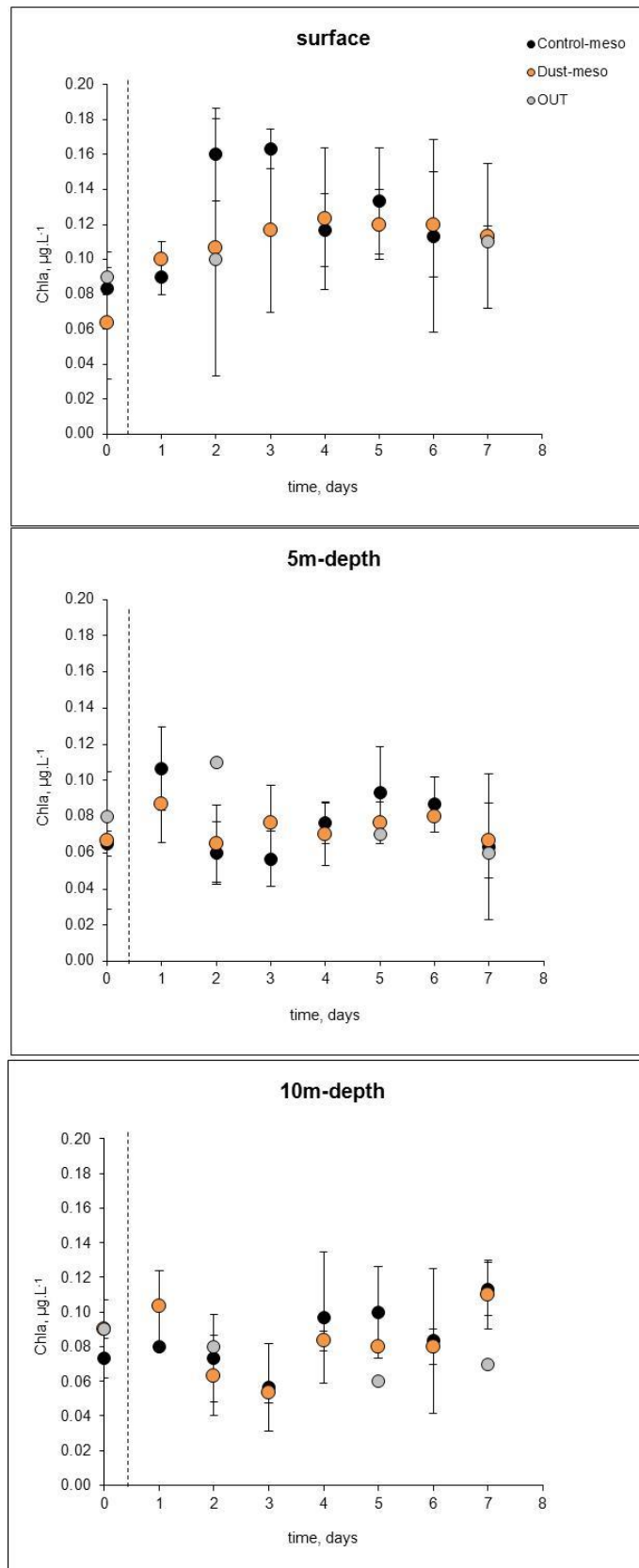


Figure S6 – Primary production (PP) in  $\text{mg C m}^{-3} \text{ d}^{-1}$  during the DUNE-1-Q experiment in the Control-meso (black dot), Dust-meso (orange dot) and out (grey dot) at surface and 5 m depth. The dotted line represents the time of the dust seeding. Data in the Control- and Dust-meso represent the average and standard deviation of the three replicate mesocosms. Means in the Dust-meso that were significantly different from the Control-meso ( $p < 0.05$ ) are labeled with the \* symbol.

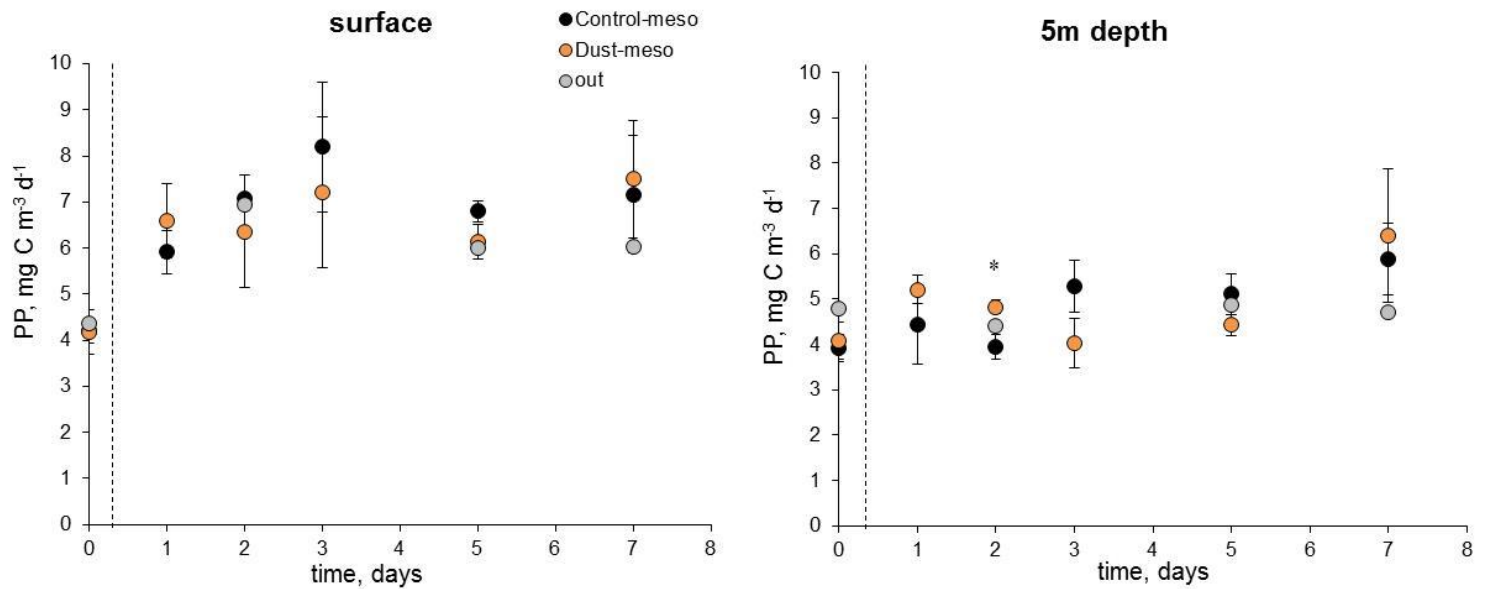


Figure S7: Chlorophyll *a* (Chl *a*) concentration in  $\mu\text{g L}^{-1}$  during the DUNE-2-R experiment in the Control-meso (black dot), Dust-meso (orange dot) and out (grey dot) at surface, 5 and 10 m depth. The dotted lines represent the time of the dust seedings. Data in the Control- and Dust-meso represent the average and standard deviation of the three replicate mesocosms. Means in the Dust-meso that were significantly different from the Control-meso ( $p < 0.05$ ) are labeled with the \* symbol.

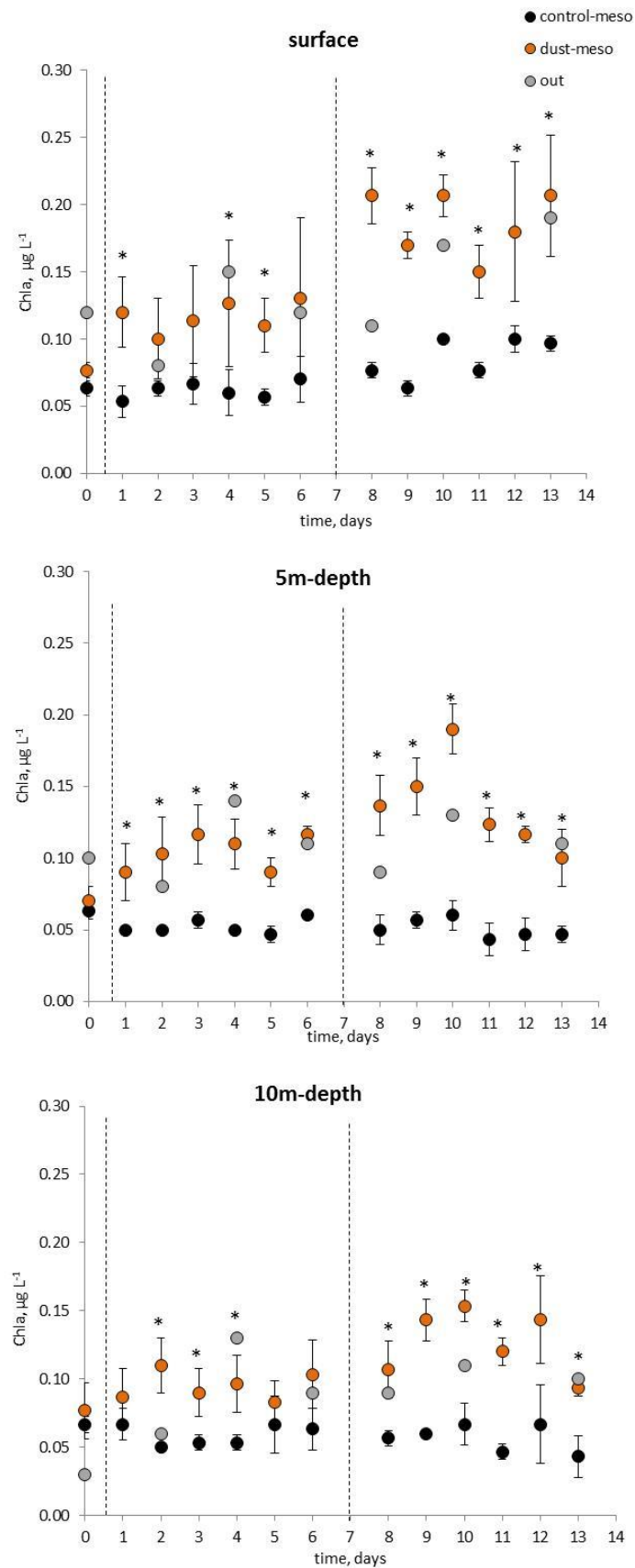




Figure S8 – Primary production (PP) in  $\text{mg C m}^{-3} \text{ d}^{-1}$  during the DUNE-2-R experiment in the Control-meso (black dot), Dust-meso (orange dot) and out (grey dot) at 5 m depth. The dotted lines represent the time of the dust seedings. Data in the Control- and Dust-meso represent the average and standard deviation of the three replicate mesocosms. Means in the Dust-meso that were significantly different from the Control-meso ( $p < 0.05$ ) are labeled with the \* symbol.

